10.5368/aedj.2017.9.2.2.5

PYOGENIC GRANULOMA OF UPPER LIP: A CASE REPORT

[1] Arpita Rai — [1] Assistant professor
[2] Monica Malhotra — [2] Tutor
[3] Ansul Kumar — [3] Assistant Professor
[4] Varun Malhotra — [4] Professor
[5] Akhilesh Dwivedi — [5] Reader

[1]Department of Oral Medicine and Radiology,Faculty of Dentistry, Jamia Millia Islamia, New Delhi
[2] Santosh Dental College,Ghaziabad, UP
[3]Department of cardiothoracic and vascular surgery, Rajendra Institute of Medical Sciences, Ranchi.
[4] Department of Physiology,Santosh Medical College,Ghaziabad, UP
[5] Department of Pathology,Vananchal Dental College and Hospital,Jharkhand

ABSTRACT: Pyogenic granuloma is a common tumor-like growth of the oral cavity that is supposed to be non-neoplastic in nature. It is a reactional response to minor trauma or chronic irritation and due to hormonal changes. Clinically oral pyogenic granuloma is a smooth or lobulated exophytic lesion on a pedunculated or sessile base, which is mostly haemorrhagic. Although pyogenic granuloma is a non-neoplastic growth in the oral cavity, proper diagnosis, prevention, management and treatment is very important. This case report draws attention towards the uncommon location of the pyogenic granuloma on the upper lip. Surgical excision was done because of the cosmetic disfigurement and discomfort to the patient.

KEYWORDS: pyogenic granuloma, lip, granuloma, benign tumor, exophytic growth

INTRODUCTION

Pyogenic granuloma is a benign mucocutaneous lesion of the oral cavity. It is a vascular proliferation commonly seen in young female adults. In the oral cavity pyogenic granuloma is seen as a sessile or pedunculated haemorrhagic nodule with a smooth or lobulated surface that has a high tendency to bleed and reoccur after surgical excision. [1] Pyogenic granuloma occur most frequently on the gingiva (75 % of all cases). Rarley it is found on the lips, tongue, oral mucosa, palate, fingers. Pyogenic granuloma recurrence on the lip is rare.[2] Chronic local irritation [3] due to calculus, food material, overhanging dental restoration, fractured tooth, tramatic injury; hormonal factors;[4] certain drugs [5] play an important role in pathogenesis of this lesion. These irritants should be eliminated when the lesion is excised to reduce the chances of reoccurance. [6] Reoccurance is due to incomplete excision, failure to remove etiologic factors or reinjury of lesions.[7] Pyogenic granuloma on gingiva show a much higher reoccurance rate compared to other mucosal site.[8]

This is a case report of Pyogenic granuloma on the upper lip, an unusual location, of a female patient aged 45 years. Poor oral hygiene and fractured tooth were the main causative factor. Simple excision was done with extraction of fractured upper tooth 21 to reduce chances of recurrence.

Case report

A 45-year-old female patient presented with swelling on the upper lip since last 8 days. The swelling had grown to present size over the last 3 days. The swelling was associated with bleeding while eating**.** Clinical examination of the patient revealed a solitary sessile, exophytic growth present in midline of upper lip which was 1x 1 cm in size and round in shape**(Fig.1)**. The swelling had lobulated surface which was non tender, soft to firm in consistency and bled on manipulation**(Fig.2)**. Intraoral examination revealed poor oral hygiene with fractured upper front tooth 21 and missing 11. Patient reported using finger and charcoal for cleaning her teeth once daily. The gingiva had generalized enlargement and was inflamed with bleeding on probing. Severe calculus and stains were present**.** Root stump in relation to 16,18,27,28,36 and 45 were noted along with caries in 23,26,38,42 and 46. Based on clinical finding and history the case was provisionally diagnosed as pyogenic granuloma of upper lip.

Excisional biopsy of the swelling along with extraction of fractured upper tooth 21 was performed**(Fig.3)**. Patient was educated and motivated for better oral hygiene. Oral prophylaxis was completed in the patient. The histopathological examination of the specimen revealed connective tissue stroma with endothelial cell proliferation with forming blood capillaries**(Fig.4)**. Focal areas showed well formed capillaries with extravasated RBC's. Stroma

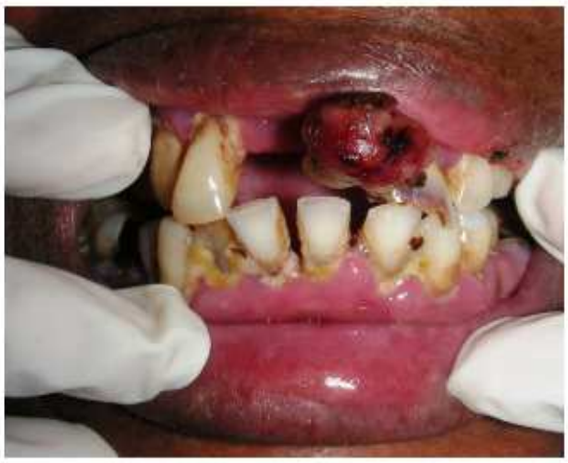

Fig. 1: Clinical photograph of the patient showing an exophytic growth on the upper lip in the midline having a hemmorhagic surface. Also notable is the significant stains and calculus on all teeth suggesting poor oral hygiene.

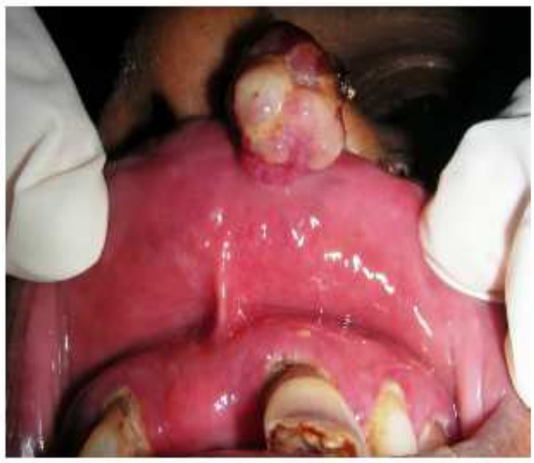

Fig. 2: Clinical photograph of the patient showing lobulated surface of the sessile growth present on upper lip. Fracture 21 and missing 11 seen.

also showed bundles of collagen fibers with minimal hyalinization and chronic inflammatory cell infiltration predominantly lymphocytes and plasma cells. These characteristics confirmed the diagnosis of pyogenic granuloma. On recall, the patient had no sign of reoccurrence.

Discussion

Pyogenic granuloma is a tumour like growth that is considered as an exaggerated, conditioned response to minor trauma. [9] It has been classified as a tumor of angiogenesis. It is characterised by an exuberant vascular response to an angiogenic stimulus with an increase in angiogenic growth factors such as angiogenic growth factor and basic fibroblast growth factor.[10,11] Chronic trauma (in the mouth or lip from chewing), overhanging dental restoration, calculus, hormonal influences (pregnancy and oral contraceptive use) plays an important role in soft tissue response to vascular proliferation.

As in our case, chronic tissue injury from biting and fractured upper tooth led to the development of lesion. It arises most frequently on the gingiva accounting for 75% of all cases. It may occur on the lip, tongue, buccal mucosa. The lesion is elevated, pedunculated or sessile, vesicular mass with smooth, lobulated or even a warty surface; which commonly is ulcerated and shows a tendency of haemorrhage spontaneously or upon slight trauma.[4] Their friable, haemorrhagic and frequently ulcerated appearance correlates with histological structure. Like scar tissue they appear to mature and become less vascular (paler and less friable) and more collagenous, firmer and smaller with time. It may develop rapidly, reach full size and then remain static for an indefinite period of time. The pyogenic granuloma in our patient was a typical solitary, sessile, exophytic growth present in midline of upper lip, which was non-tender, soft to firm in consistency on palpation. The surface of the swelling was lobulated with areas of clotted blood present on the surface.

Pregnancy tumor is an identical lesion with same histological structure due to increased circulating level of estrogen during third month of pregnancy or sometime later. It gradually increases in size and after delivery may or may not regress. It frequently reoccurs if surgically removed during pregnancy. It is believed by most workers that pregnancy tumor is a pyogenic granuloma, which occur as a result of local minor trauma or irritation and in which the tissue reaction is intensified by endocrine alteration occuring during pregnancy.[12]

Clinical diagnosis may sometimes be complicated due to other similar lesion like seborrharic keratosis, furuncle ecthyma contagiosum and verucca vulgaris. Malignant lesion like squamous cell carcinoma, basal cell carcinoma, kerato-aconthoma, amelanotic melanoma, Kaposi sarcoma also deserve consideration.[11,13,14]

Pyogenic granuloma are treated by surgical excision. The lesion occasionally reoccurs because it is not encapsulated and the surgeon may have difficulty in determining its limit and excising it adequately. [12] Reoccurance rate is 16%. It is the result of incomplete excision, failure to remove the etiological factor or reinjury of the area.[3] Recurrent pyogenic granuloma with multiple deep satellite nodules that surround the site of original lesion is known as Warner- Wilson Jones syndrome. [15] However, reoccurance with extragingival granuloma is uncommon. [16]

Fig. 3: Photograph of the excised specimen sent for histopathological evaluation.

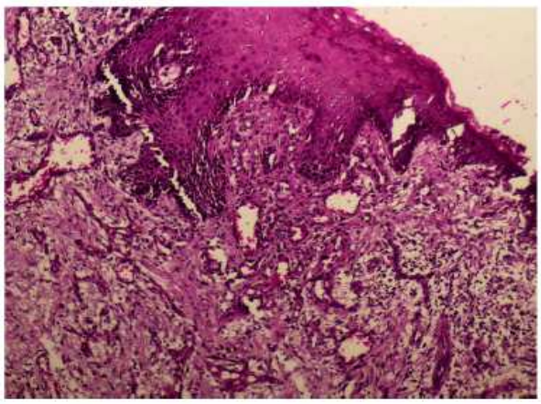

Fig.4: Hematoxylin and eosin stained 40X magnification photograph showing connective tissue stroma with endothelial cell proliferation and forming blood capillaries. Additionally, chronic inflammatory cell infiltration predominantly lymphocytes and plasma cells were seen in the stroma

References

1. Zain RB, Khoo SP, Yeo JF. Oral pyogenic granuloma- a clinical analysis of 304 cases. Singapore Dent J 1995; 20:8-10.
2. Graham RM. Pyogenic granuloma an unusual presentation. Dent update 1996; 23:240-1.
3. Regezi JA, Sciubbe JJ, Jordan Rck. Oral Pathology; Clinical Pathologic **consider** , 4th Ed WB Sauders, Philadelphia, 115-116.
4. Mussaelli NG, Hoppe RM, Johhron NW (1976), Oral Pyogenic granuloma as a complication of pregnancy and use of hormonal contraceptive. **In J J** Gynaecol Obstet 14, 187-191.
5. Muller RA, Rose JB, Martin J (1985). Multiple granulation tissue lesion occurring in **isotreline** treatment of acne vulgaris. J Am Acad Dermatol 1985; 12: 888-889.
6. Burkit's oral medicine 10 th Edition, pg 142.
7. Souza LN, Martins CR, Paula AM. Cutaneous horn occurring on the lip of the child. Int J Paediatic Dent 2003; 13:365-7.
8. Jafarzadeh H, Sanatkhani M, Mohtsham N. Oral pyogenic granuloma; a review . J Oral Sci 2006; 48(a): 161-75.
9. Shafer's textbook of Oral Pathology. 7th edition pg 334.
10. Gordon-Nunez MA, Devasconcelos Casualom , Benevenuto TG, Lopes MF, Silva LM, Cralvao HC. Oral pyogenic granuloma, a retrospective analysis of 293 cases in Brazilian population. J Oral Maxillofacial Surg 2010; 68 (9): 2183-8.
11. Giblin AV, Clover AJ. Pyogenic granuloma the quest for optimum treatment, audit of treatment of 408 cases. J Plast **Recontr** Aesthet Surg 2007; 60 (90): 1030-5.
12. Shafer's textbook of oral pathology. 7 th edition pg 336
13. Kamala KA, Ashok L, Sugatha GP. Pyogenic granuloma on the upper labial mucosa a case report. J Clin Diagn Res 2013; 7(6); 1244-46.
14. Patil K, Mahima VG, Lahari K. Extragingival Pyogenic prgnuloma. India J Dent Res 2006; 17 (4); 199-202.
15. Taira JW, Hill TL, Everett MA, Lobular capillary hemangioma with satellitosis. J Am Acad Dermaol 1992; 27;297-300.
16. Villmann A, Villmann P, Villmann H. Pyogenic granuloma evaluation of oral condition. Br J Oral Maxillofac Surg 1986; 24:376-82.

Corresponding Author

Arpita Rai
Assistant professor
Department of Oral Medicine and Radiology
Faculty of Dentistry
Jamia Millia Islamia
New Delhi
Mail id: arpitadoc@gmail.com
Phone:8802536376